

## ABSTRACT

### Improvements Relating to Interfacing Embedded Optical Transmission Structures

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A composite (40) for use in the aircraft construction industry comprise an optical transmission means (42), such as an optical fibre, embedded within a carrier. The optical transmission means is provided with a high-quality optical interface surface (50) which provides a means for optical connection to the optical transmission means (42) from outside the carrier. The optical interface surface (50) is provided as part of a micro-optical component (44) which processes the optical signals to improve light extraction from and supply to the optical transmission means (40). The buried optical transmission means is accessed by a passageway (56,66) formed in the carrier to the interface surface (50). If the passageway (56,66) is formed prior to completion of finishing processes on the composite, a protective plug (48) is provided to close the passageway (56,66) until the optical connection is required.

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(Figure 2a)